

CLEAN VERSION OF PENDING CLAIMS

(Twice amended) 23. A method for providing temperature control to a plasma processing chamber of a plasma processing apparatus, said method comprising:

directly or indirectly measuring temperature internal to the plasma processing chamber;

comparing the measured temperature to a target temperature;

heating the plasma processing chamber by heating a plurality of thermal control blocks that include at least a heater element and a cooling element arranged around the sides of the plasma processing chamber such that the thermal control blocks are thermally coupled to the plasma processing chamber; and

cooling the plasma processing chamber by actively cooling the plurality of thermal control blocks so that the cooling is provided by the cooling element through the heating element.

(Twice amended) 26. A method as recited in claim 23, wherein the thermal control blocks further include a thermal break element coupled between the heater element and the cooling element.

(Amended) 27. A method as recited in claim 23, wherein said method further comprises:

biasing the thermal control blocks against a portion of the plasma processing chamber.

(Amended) 32. A method as recited in claim 23, wherein the thermal control blocks further include notches configured to prevent RF energy from coupling with the thermal control blocks.

(Amended) 33. A method for providing temperature control to a plasma processing chamber of a plasma processing apparatus, said method comprising:

directly or indirectly measuring temperature internal to the plasma processing chamber;

comparing the measured temperature to a target temperature;

providing a thermal control block that is thermally coupled to the plasma processing chamber, said thermal control block having a heating element and a cooling element with a thermal break element coupled between the heater element and the cooling element;

heating the plasma processing chamber by heating the thermal control block that is thermally coupled to the plasma processing chamber; and

cooling the plasma processing chamber by actively cooling the thermal control block so that the cooling is provided by the cooling element through the heating element.

35. A method as recited in claim 33, wherein the method further comprises:

biasing the thermal control block against a portion of the plasma processing chamber.

36. A method as recited in claim 33, wherein the thermal block includes notches formed therein to prevent RF energy from coupling with the thermal control block.

37. A method for providing temperature control to a plasma processing chamber of a plasma processing apparatus, said method comprising:

directly or indirectly measuring temperature internal to the plasma processing chamber;

comparing the measured temperature to a target temperature;

heating the plasma processing chamber by heating a thermal control block that is thermally coupled to the plasma processing chamber;

cooling the plasma processing chamber by actively cooling the thermal control block;
and

preventing RF energy from coupling with the thermal control block.

38. The method as of claim 37, wherein preventing RF energy from coupling with the thermal control block is accomplished by including notches in the thermal control block to prevent RF energy from coupling with the thermal control block.

(Amended) 39. A method as recited in claim 38, wherein the cooling of the plasma processing chamber is accomplished through the same thermal control block that is able to heat the plasma processing chamber, thereby providing more uniform temperature profile to the plasma processing chamber.

40. A method as recited in claim 37, wherein the thermal control block includes at least a heater element and a cooling element, and

wherein said cooling is provided by the cooling element through the heating element.

(Amended) 41. A method as recited in claim 40, wherein the thermal control block further includes a thermal break element coupled between the heater element and the cooling element.

42. A method as recited in claim 23, wherein said method further comprises:

biasing the thermal control block against a portion of the plasma processing chamber.

(New) 43. A method as recited in claim 23, wherein said biasing the thermal control blocks against a portion of the plasma processing chamber includes spring biasing the thermal control blocks against a portion of the plasma processing chamber.